Instructor: Zachary Spaulding
Office: 040 Herman Brown Hall
Email: zjs1@rice.edu
Class Webpage: Canvas

Time: MWF 8:30AM - 9:25AM CDT
Classroom: Zoom Lecture
Office Hours: T: 1:00 - 2:00, Th: 1:30 - 2:30 CDT

Textbook: OpenStax Calculus, Vol. 2.

Lecture: Lectures will be held over Zoom. Meeting information and past recordings can be accessed through the course's Canvas page. I expect those who cannot attend the live lectures to watch the recording the same day.

Daily Assignments and Homework: There will be WebWork assignments for each lecture and one written homework per week.

The WebWork will be assigned after lecture and will consist of a few exercises on topics covered that day. These assignments will be due by the beginning of the following lecture.

The written homework will consist of longer exercises. Written homework will be due on Fridays (starting Week 2) and submitted through Gradescope. Assignments will be posted on Canvas. Students are expected to submit clearly legible documents (see expectations).

Assignments are not pledged and students are encouraged to discuss these problems amongst each other. Using the solutions manual, calculators or mathematical software is prohibited.

Exams: There will be two midterm exams during the semester and a comprehensive final exam. Midterm exams will take place on **Thursday, February 25th** and on **Tuesday, April 13th**, both at **7:00PM-9:00PM CDT**. (An alternate time slot will be available for those in an inconvenient time zone.)

> **Final exam:** The Final Exam date is to be determined. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsibility to either reschedule your travel plans or take a zero in the final.

Books, notes, and calculators will **not** be allowed on exams. Make-up exams will be allowed only in the case of a documented medical emergency. If an exam conflicts with a holiday you observe, please let me know before the end of the first week of classes. **All exams are pledged. Discussing exam questions with other students is prohibited until all students have taken the exam. Students are expected to adhere to the Honor Code while taking exams. The Honor Code itself should be written on the first page of every midterm and exam.**

Grades: The aim in Math 102 is that letter grades should not depend on whether a student's section is an "easy" or "hard" section. To that end, when computing final course grades, a student's exam scores are normalized against exam scores of all students in Math 102 this semester (not just those in this section), while a student's non-exam scores are normalized against the non-exam scores of students in this section. In particular, students should not assume that having higher raw scores on homework than on exams will necessarily increase their final letter grade.

WebWork will account for 10% of your final grade, written homework will account for 13%, and exams will account for the remaining 77%. Midterm I, Midterm II, and the Final will be weighted either 4:4:5, 3:4:6, or 4:3:6, whichever results in the **maximum** score.

Expectations: I expect students to view each lecture the same day of its recording. I also expect students to submit scanned documents for their written assignments and exams; this can be done using traditional scanners or free software available online or through smartphone applications. It is your responsibility to keep informed of any announcements, syllabus adjustments, or policy changes made during scheduled classes. Not all announcements will be posted on the website.

Piazza: This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing me questions, I encourage you to post your questions on Piazza. The Piazza page will also be available through Canvas. If you have any problems or feedback for the developers, email `team@piazza.com`.

Disability Support: Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me during the first two weeks of class. All such discussions will remain as confidential as possible. Students with disabilities will need to also contact Disability Support Services in the Allen Center.

Department Commitment: The Dept of Mathematics supports an inclusive learning environment where diversity and individual differences are understood, respected, and recognized as a source of strength. Racism, discrimination, harassment, and bullying will not be tolerated. We expect all participants in mathematics courses (students and faculty alike) to treat each other with courtesy and respect, and to adhere to the mathematics department standards of collegiality, respect, and sensitivity as well as the Rice Student Code of Conduct. If you think you have experienced or witnessed unprofessional or antagonistic behavior, then the matter should be brought to the attention of the instructor and/or department chair. The Ombudsperson is also available as an intermediate, informal option, and contacting them will not necessarily trigger a formal inquiry.

Title IX Responsible Employee Notification: Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees, including myself, as the instructor/TA, are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For more information, please visit safe.rice.edu or email `titleixsupport@rice.edu`.

Topics to be Covered:

Section 1.5: Substitution
Section 1.6: Integrals Involving Exponential and Logarithmic Functions
Section 1.7: Integrals Resulting in Inverse Trigonometric Functions
Section 3.1: Integration by Parts
Section 3.2: Trigonometric Integrals
Section 3.3: Trigonometric Substitution
Section 3.4: Partial Fractions
Section 3.7: Improper Integrals
Asymptotics
Section 5.1: Sequences
Section 5.2: Infinite Series
Section 5.3: The Divergence and Integral Tests
Section 5.4: Comparison Tests
Section 5.5: Alternating Series
Section 5.6: Ratio and Root Tests
Section 6.1: Power Series and Functions
Section 6.2: Properties of Power Series
Section 6.3: Taylor and Maclaurin Series
Section 6.4: Working with Taylor Series
Fourier Series
Section 7.1: Parametric Equations
Section 7.2: Calculus of Parametric Curves
Section 7.3: Polar Coordinates
Section 7.4: Area and Arc Length in Polar Coordinates
Complex Numbers